

REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendment and the following remarks.

By the foregoing amendment, claims 1-2, 12-13, 19 and 20 have been amended. Claims 1-20 remain pending.

In rejecting the claims, the Examiner evidently interpret US Patent No. 3,706,486 (de Montebello) in the broadest way. Indeed, this reference discloses a lenticular sheet 22 embedded inside a molded body which forms a single lens array (column 4, lines 48-63). Thus, the lens array allows light entry from any direction and at any position of the lens array. Thus, the lenticular sheet is basically different from the light shield (light shielding means) of the present invention. The amendments made to the claims clarify this basic difference.

Specifically, amended claim 1 sets forth, among other things, that the second lens array is separate from the first lens array, and that the light shield is located on a side of the first lens array located away from the second lens array. In de Montebello, the lenticular sheet 22 is located between the upper and lower portions of the single lens array.

Amended claim 12 sets forth, among other things, that each of the lenses has a first convex lens surface for incidence of light and a second lens surface, and that the light shield is arranged on a side of the lens array where the first convex lens surfaces are formed. In de Montebello, the lenticular sheet 22 is located inside the single lens array away from the convex lens surfaces.

Amended 13 sets forth, among other things, that at least either one of the third and fourth lens surfaces (of the second lens array) is convex, that the second lens array being separate from the first lens array, and that light shielding means partially covers said at least either one of the third and the fourth lens surfaces of each second lens which is convex. In de Montebello, the lenticular sheet 22 is located inside the single lens array away from the convex lens surfaces.

Amended claim 19 sets forth, among other things, that each of the lenses has a convex lens surface, and that light shielding means partially covers the convex lens surface. In de Montebello, the lenticular sheet 22 is located inside the single lens array away from the convex lens surfaces.

Amended claim 20 sets forth, among other things, that at least either one of the light inlet surface and the light outlet surface (of each lens) is convex, and that said at least either one of the light inlet surface and the light outlet surface which is convex is shielded for adjusting brightness of light spots formed along a predetermined focal line. In de Montebello, again, the lenticular sheet 22 is located inside the single lens array away from the convex lens surfaces.

In this way, all of the independent claims discussed above are believed to be patentably distinct from de Montebello.

Serial No.: 09/823,762
Art Unit: 2873

Attorney's Docket No.: KIX0142-US
Page 8

In view of the foregoing all of the claims in this case are believed to be in condition for allowance. Should the Examiner have any questions or determine that any further action is desirable to place this application in even better condition for issue, the Examiner is encouraged to telephone applicants' undersigned representative at the number listed below.

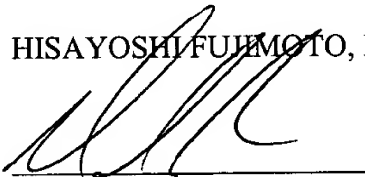
SHAW PITTMAN LLP
1650 Tysons Boulevard
McLean, VA 22102
Tel: 703/770-7900

Date: February 21, 2003

Respectfully submitted,

HISAYOSHI FUJIMOTO, ET AL.

By:


Michael D. Bednarek
Registration No. 32,329

Attachments: Amended Claims w/ Markings

MDB/lrhj

Customer No. 28970

VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

1. (Amended) A lens array unit comprising:

a first lens array provided with a plurality of first convex lenses and a first transparent holder formed integral with the first lenses, each of the first lenses having first and second lens surfaces;

a second lens array provided with a plurality of second convex lenses and a second transparent holder formed integral with the second lenses, each of the second lenses having third and fourth lens surfaces, the second lens array being separate from the first lens array and attached to the first lens array so that the third lens surfaces face the second lens surfaces; and

a light shield mounted on the first lens array and provided with a plurality of through-holes facing the first lens surfaces[.];

wherein the light shield is located on a side of the first lens array located away from the second lens array.

2. (Amended) The lens array unit according to claim 1, wherein [the first and second lens arrays cooperate to form a non-inverted and non-magnified image of an object.] the first and second lens surfaces of the first lens array are convex in opposite directions, the third and fourth lens surfaces of the second lens array being also convex in opposite directions.

12. (Amended) A lens array unit comprising:

a lens array provided with a plurality of lenses and a transparent holder formed integral with the lenses, each of the lenses having [first and second lens surfaces] a first convex lens surface for incidence of light and a second lens surface; and

a light shield formed with a plurality of through-holes facing the first lens surfaces[.];

wherein the light shield is arranged on a side of the lens array where the first convex lens surfaces are formed.

13. (Amended) A lens array unit comprising:

a first lens array provided with a plurality of first convex lenses arranged in a line, each of the first lenses having first and second lens surfaces;

a second lens array provided with a plurality of second convex lenses arranged in a line, each of the second lenses having third and fourth lens surfaces, at least either one of the third and fourth lens surfaces being convex, the second lens array being separate from the first lens array and attached to the first lens array so that the third lens surfaces face the second lens surfaces; and

light shielding means for partially covering said at least either one of the third and the fourth lens surfaces of each second lens which is convex.

19. (Amended) A lens array comprising:
a plurality of lenses arranged in a line and each having a convex lens surface; and
light shielding means for partially covering the convex lens surface;
wherein the convex lens surface includes peripheral portions spaced from each other
along said line, the light shielding means covering the peripheral portions.

20. (Amended) A method of forming an image of an object, the method comprising
the steps of:

preparing a lens array unit which includes a first lens array provided with first lenses and
a second lens array provided with second lenses, the first lens array being arranged closer to said
object than the second lens array is, each of the second lenses having a light inlet surface and a
light outlet surface, at least either one of the light inlet surface and the light outlet surface being
convex; and

partially shielding said at least either one of the light inlet surface and the light outlet
surface which is convex for adjusting brightness of light spots formed along a predetermined
focal line.